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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,637	03/31/2000	PAUL S. BRADLEY	1018.085US1	1780

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EXAMINER

LIANG, GWEN

ART UNIT PAPER NUMBER

2172

DATE MAILED: 02/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/540,637

Applicant(s)

BRADLEY ET AL.

Examiner

GWEN LIANG

Art Unit

2172

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 8-17, 19-21, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breeese et al., "Breeese" (Empirical Analysis of Predictive Algorithms for Collaborative Filtering).

With respect to claim 1, Breeese discloses a method comprising:

based on the plurality of groups, determining a predicted vote for a particular record and a particular item using a similarity scoring approach (See for example: Section 1. Introduction, paragraph 1, wherein the preference patterns of other users who have similar interests are used to find content of interest to a user; Section 2. Collaborative filtering Algorithms, paragraph 1; Section 2.1 Memory-Based Algorithms.); and,

outputting the predicted vote for the particular record and the particular item (See for example: Section 3.1 Evaluation Criteria paragraphs 1-3, wherein each piece of content has an associated estimated rating,, and the user interface displays this estimate.)

Breeese does not explicitly teach "consolidating data organized into records and items, such that each record has a value for each item, into a plurality of groups".

However, the teaching of this feature is obvious in Breeese (See for example: Section 2.1 Memory-Based Algorithms, wherein the user database consists of a set of votes $V_{i,j}$, corresponding to the vote for user i on item j ; therefore it is obvious that the data is organization into records (corresponding to users) and items and each record has a value (e.g. vote) for each item; Section 2.3.1 Cluster Models, paragraph 1, wherein the prediction is derived from a database of user votes from a sample or population of other users, which illustrates the existence of plurality of groups in the database)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the method of “consolidating data organized into records and items, such that each record has a value for each item, into a plurality of groups” into the other features in the method as taught in Breeese to provide memory-based collaborative filtering algorithms for predicting the votes of the active user based on a some partial information regarding the active user and a set of weights calculated from other users in the user database(See for example: Section 2.1 Memory-Based algorithms paragraph 2). One of ordinary skill in the art would be motivated to make the aforementioned combination with reasonable expectation of success.

Claim 2 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein consolidating the data into the plurality of groups comprises consolidating the data into a plurality of clusters (See for example: Section 2.3.1 Cluster Models, paragraph 1).

Claim 3 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein consolidating the data into the plurality of groups comprises

consolidating the data into a plurality of descriptors (See for example: Section 2.2.1 Default Voting, paragraph 3; Section 3.1 Evaluation Criteria, paragraphs 6 and 7; Section 3.2 Datasets, paragraph 3).

Claim 4 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein each record is referred to as at least one of: a row, and a user (See for example: Section 2 Collaborative Filtering Algorithms, paragraph 2; Section 2.1 Memory-Based Algorithms; Section 2.1.2 Vector Similarity).

Claim 5 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein each item is referred to as at least one of: a column, and a dimension (See for example: Section 2 Collaborative Filtering Algorithms, paragraph 2; Section 2.1 Memory-Based Algorithms).

Claim 6 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein each record comprises a user, and each item comprises a product, such that determining the predicted vote for the particular record and the particular item comprises determining whether a particular user will purchase a particular product (See for example: Abstract, paragraph 1; Section 2 Collaborative Filtering Algorithms, paragraph 1).

Claim 8 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein the similarity scoring approach comprises a likelihood similarity scoring approach (See for example: Section 1 Introduction, paragraph 2).

Claim 9 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein the similarity scoring approach comprises a correlation similarity scoring approach (See for example: Section 2.1 Memory-Based Algorithms).

Claims 10 and 11, 13, 14, 15 are rejected on grounds corresponding to the reasons given above for claims 1, 4, 5, 8, 9.

Claim 12 is rejected on grounds corresponding to the reasons given above for claims 2 and 3.

Claims 16, 17 are rejected on grounds corresponding to the reasons given above for claims 1, 6.

Claim 19 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein the similarity scoring approach comprises one of:

a likelihood similarity scoring approach (See for example: Section 2.3.1 Cluster Models),
and

a correlation similarity scoring approach (See for example: Section 4,1 Overall Performance, paragraphs 2 and 3).

Claims 20, 21, 23 are rejected on grounds corresponding to the reasons given above for claims 1, 6, 19.

3. Claims 7, 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breeese et al., "Breeese" (Empirical Analysis of Predictive Algorithms for Collaborative Filtering), further in view of Callaghan (U.S. Patent No. 5,937,397).

Claim 7 is rejected for the reasons set forth hereinabove for claim 1 and furthermore Breeese teaches a method wherein each record comprises a user, and each item comprises a web page (See for example: Section 2 Collaborative Filtering Algorithms, paragraph 2). However Breeese does not explicitly disclose a method comprising determining whether a particular user will view a particular web page.

Callaghan teaches a method comprising determining whether a particular user will view a particular web page (See for example: col. 1 lines 5-13; col. 3 lines 9-19).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a method comprising determining whether a particular user will view a particular web page as disclosed by Callaghan into the method of predicting user vote for a particular item as disclosed in Breeese to provide a World Wide Web Automated Collaboration System (WACS) which provides, as a user "surfs" the Web, recommendations of URLs to go to from each displayed page and which URLs to avoid (col. 2 lines 18-22). One of ordinary skill in the art would be motivated to make the aforementioned combination with reasonable expectation of success.

Claims 18, 22 are rejected on grounds corresponding to the reasons given above for claim 7.

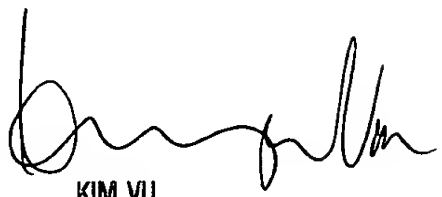
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GWEN LIANG whose telephone number is 703-305-3985. The examiner can normally be reached on 9:00 A.M. - 5:30 P.M. Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KIM VU can be reached on (703) 305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

G.L.
February 12, 2003



KIM VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100